37 is bridged across a segment 38 of the conductor supplying the motor control circuitry to detect the voltage drop thereacross and provide a measurement of the current draw of the motor 32. (Page 8, line 24-page 8, line 1). The current draw of the motor 32 is therefore the measurement which is the output of the system.

Page 9, lines 1-3 go on to state, "That output may be used to cut off the operation of the motor in the case of an overload or as the basis of a display 40."

As the words quoted make clear, therefore, the function of the display 40 is to show the current draw of the motor 32.

The Examiner has raised certain questions with respect to other portions of the claimed subject matter which will be answered below, but prior to responding to these additional points, applicant wishes to make clear that the specification is directed to a p rson of ordinary skill in the art. As will be apparent from In re Szajna & Lump, 164 USPQ 632, the preamble of a claim defines the field to which the claim is directed and of course the nature of the ordinary skilled worker in the art to whom the specification and claims are addressed.

In the present case, the claims are addressed to one familiar with methods of determining current draw from a voltage drop or one familiar with electrically controlled pumps and hence who is familiar with Ohms law and would understand that the current I through the line having a voltage drop V thereacross is determined by the relationship V = IR where R is the resistance of the segment of the line across which that voltage drop is measured.

2. The Examiner asserts that the step of "calculating said current draw from said voltage drop" is a calculation which is within the skill of the ordinary worker in the art to whom the present claims are addressed does not have support in the specification. The Examiner is invited to look to page 3, line 21 and page 4, line 7, where the expression is identically found in the specification and to page 5, lines 17-20 and page 8, line 26 - page 9, line 1 where support for how the calculation is made, assuming of course the basic knowledge of Ohm's law by the ordinary skilled worker are described. The ordinary skilled worker in the art would not have any problem making the calculation from the information given.

3. The Examiner states that the specification does not have support for a computer unit forming part of a motor control circuit compensating for temperature. This is simply not true as page 8, lines 10-16 taken together with page 8, line 24 - page 9, line 3 and page 9, lines 10-15 make clear. Attention is directed further to page 5, lines 14-22. Again, these descriptions are addressed to a worker skilled in the art who readily can correct a current measurement as a function of the temperature as determined by the sensing segment.

4. The Examiner asserts that the limitation of 1 to 5 milliohms as recited in claim 21 does not have support in the specification. This limitation is disclosed at page 6, line 17.

5. The Examiner indicates that it is unclear how the microprocessor 37 and the temperature sensor 47 are used for correcting the current measurement in the conductor segment 38 and what has been detected or analyzed in order to make such correction. Applicant submits that a temperature sensor would be understood by a skilled worker in this art to be a unit which measures the temperature and since it is explained several times that the resistance of the wire segment across which the voltage drop is measured is sensitive to temperature, such a worker of ordinary skill would also understand that the correction must be made to compensate for such a resistance change, even if the specification did not say as much, which it does. Thus it is perfectly clear from the specification how the microprocessor 37 and the temperature sensor 47 are used for correction of temperature differences in the resistance across which the voltage drop is taken.

6. Applicant is uncertain what the Examiner means by the "calculated current in claim 13". Claim 13 refers to calculating a current draw from the voltage drop. Claim 16 calls for the measurement of a current in a portion of a conductor and it is clear that the current referred to there is the current in the portion of the conductor which is referred to in claim 13 and that across which the voltage drop is measured in step (a). That conductor connects the power line with the motor control circuit. If that portion of the conductor also supplies the pump directly,

then that current is the current draw of the pump. If it supplies only the motor control circuit and the motor control circuit controls the pump so that the current to the pump is not equal to th current in that portion of the line, then the current measured is the current to the motor control circuit from which the current draw is then calculated.

7. The nature of the regulatory action is the correction referred to at page 9, line 12.

It should be apparent from the foregoing that the ordinary skilled worker in the art would certainly be capable of making and using the invention and would readily know the scope of the claims. The rejection under 35 USC 112, first and second paragraphs must be withdrawn.

As far as the rejection on art is concerned, applicant respectfully challenges the Examiner's contention that it would have been obvious at the time the invention was made for an ordinary skilled worker in the art to have sued the LUND et al circuit to determine the current draw of a pump with a motor control system as found in the admitted prior art on pages 1 and 2 of the instant specification. While LUND does say that the resistance 11 shown in the drawing of the LUND et al reference is not a discrete resistance and thus can represent the resistance of a conductor segment, note that the entire substance of the LUND et al patent depends upon the presence of a synchronous demodulator 28 which is provided between the volt meter and the line. The volt meter 28, therefore,

does not measure th voltage drop except as the test signal is produced utilizing a demodulator (see column 3, lines 36 ff) of LUND et al and that requires impressing a modulated signal on the line segment and demodulating that signal.

One faced with the problem of determining the current draw of a pump would never attack that problem utilizing a test signal in the first place, let alone with the complex arrangement of modulator and demodulator required for application of the LUND system to the admitted prior art.

If only, therefore, for the reason that it would not have been obvious to utilize the LUND arrangement in the prior art circuit which is represented by the admitted prior art, the rejection must fail.

Perhaps of even greater importance is the fact that the combination asserted by the Examiner was deduced based on hindsight from the instant disclosure as a more significant reason for holding the combination to be improper. The LUND et al reference has nothing to do with the problems of measuring the current draw in a pump system. There is nothing in the admitted prior art which would point to LUND et al as a reference which could contribute something to the solution of the problem addressed.

In Ashland Oil, Inc., v. Delta Resin & Refractories, Inc., 227 USPQ 657, it is made clear that there must be a minimum of suggestion in one reference to the other or both to justify their combination and the Examiner has not shown anything in either reference which would indicate that one of ordinary skill in the

art faced with the problem of the prior art would even consider LIND et al as the basis for a solution.

It should be apparent, therefore, that the combination would not have been obvious to one of ordinary skill in the art at the time the invention was made and further that there is nothing which would have made that combination obvious based upon teachings in the art. The rejection of claims 13-23 simply cannot stand.

For the record it is noted that claim 17 has not been rejected on art and is presumed to contain allowable subject matter.

Favorable reconsideration is urged.

Respectfully submitted,
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